



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,146	11/05/2001	Hisayoshi Ito	213630US3XPCT	2530

22850 7590 04/11/2006

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

KUHNS, SARAH LOUISE

ART UNIT PAPER NUMBER

1761

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

h

Office Action Summary

Application No.

09/926,146

Applicant(s)

ITO ET AL.

Examiner

Sarah L. Kuhns

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-13, and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13, and 16-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claims 1-7, 9-13, 16, and 17 are rejected under 35 U.S.C. 1 12, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. A number of factors must be considered in assessing the enablement of an invention, including the following: the breadth of the claims, the amount of experimentation necessary, the guidance provided in the specification, working examples provided, predictability, and the state of the art. See *In re Wands*, 858 F.2d 731, 8 USPQ2d 1400 (Fed. Circ. 1988). In this case, there is insufficient support in the specification for the limitation of an impeller "having a shape and size varied in a vertical orientation, which variation achieving vertical flow of the yeast slurry."

Claim Rejections - 35 USC § 103

Claims 1-3, 9, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuya et al., JP 06-105680, in view of Mogi, J 410180228A.

Tetsuya discloses a stirred tank comprising a tank body having a substantially cylindrical shape (see figure 1), a jacket disposed on a periphery of the tank body within which a cooling medium is circulated (paragraph 29), and a stirring impeller made up of vertically oriented surfaces with no slant surface, having a shape and size varied in a vertical orientation, which variation achieving vertical flow of the culture (paragraph 20), and position within the tank body of the stirred tank and so constructed that a maximum diameter of a rotation body defined by the rotation of the stirring impeller is 60-90% of the inner diameter of the stirred tank (see paragraph 19, radius of gyration is $1/4-3/8$ of the tank which yields a diameter of 50-75% of the inner diameter of the stirred tank).

The claim language directed to the depth of the yeast slurry that is exposed to the impeller is merely an intended use of the apparatus and the claim does not positively claim the presence of yeast. Therefore, this language is given no patentable weight.

It is noted that Tetsuya does not suggest a stirring impeller with a hole or opening in the disclosure or in the drawings. Therefore, Tetsuya is deemed to meet the limitation requiring the stirring impeller to have no hole or opening.

Tetsuya does not disclose a tank with a conical bottom portion. However, such a design was notoriously well known in the art, as evidenced by Mogi (see figure 1). As such, it would have been obvious to include a conical bottom portion on the tank of Tetsuya for greater ease of discharge.

Claims 4-7, 10-13, 17, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Grylls et al., U.S. Patent 4,188,407, in view of Tetsuay and Mogi, as applied above.

Grylls discloses a method including storing a part of a yeast slurry discharged from fermentation tanks where been is fermented in a stirred tank and then returning the part of yeast slurry from the stirred tank to the fermentation tanks for reuse (column 3, lines 41-55).

Grylls does not disclose a tank with an inverted conical bottom or the specific dimensions of the impellor claimed. However, Tetsuya discloses a tank with the claimed proportions, as discussed above, which is used with animal cell cultures and provides for the recycle of the animal cells (paragraph 16). Providing a conical bottom portion on the tank of Tetsuya would have been obvious as discussed above. It would further have been obvious to one of ordinary skill in the art to utilize the tank of Tetsuya in the process of Grylls because the Tetsuya tank is also directed to a method of processing an animal cell culture and provides more complete stirring without damaging or destroying the cells.

Response to Arguments

Applicant's arguments with respect to claims 1-7, 9-13, and 16-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah L. Kuhns whose telephone number is 571-272-1088. The examiner can normally be reached on Monday-Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached at 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SLK



CAROLYN PADEN 1761
PRIMARY EXAMINER 4-10-06